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Regional Integration and Trade Cost in South Asia

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By

Nilanjan Banik and John Gilbert

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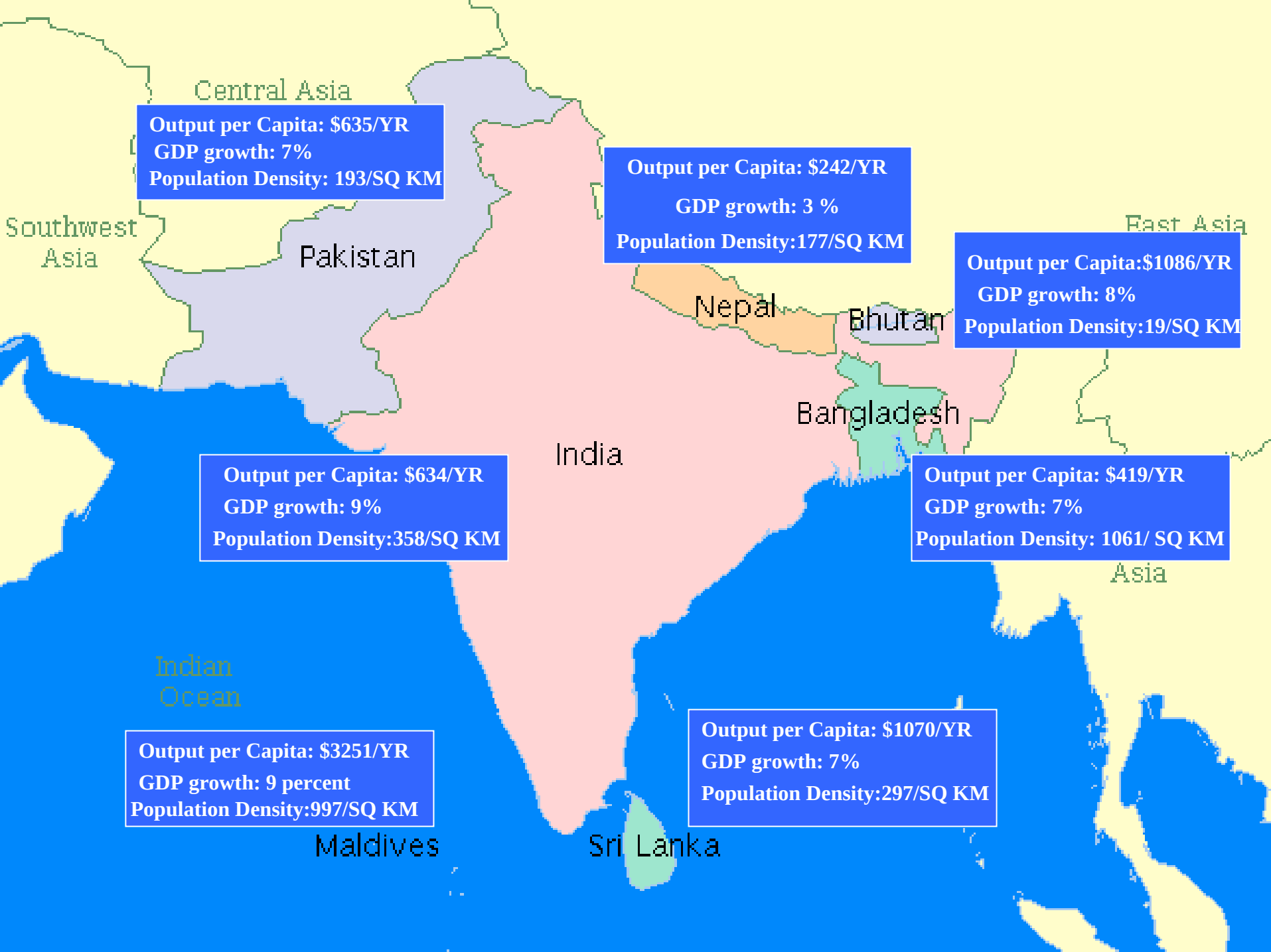

Central Asia
Output per Capita: $635/YR
GDP growth: 7%
Population Density: 193/SQ KM
Southwest Asia
Pakistan
Output per Capita: $242/YR
GDP growth: 3 %
Population Density:177/SQ KM
East Asia
Output per Capita:$1086/YR
GDP growth: 8%
Population Density:19/SQ KM
Nepal
Bhutan
Bangladesh
India
Output per Capita: $634/YR
GDP growth: 9%
Population Density:358/SQ KM
Output per Capita: $419/YR
GDP growth: 7%
Population Density: 1061/ SQ KM
Asia
Indian Ocean
Output per Capita: $3251/YR
GDP growth: 9 percent
Population Density:997/SQ KM
Output per Capita: $1070/YR
GDP growth: 7%
Population Density:297/SQ KM
Maldives
Sri Lanka

Different Types of Regional Integration

Type of Bloc	Free Trade Among the Members	Common External Tariffs	Free Movement of Factors of Production	Harmonization of All Economic Policies
Free Trade Area (FTA)	√			
Customs Union (CU)	√	√		
Common Market (CM)	√	√	√	
Economic Union (EU)	√	√	√	√

Source: : p. 214, International Economics, Eleventh Edition, Thomas A. Pugel and Peter H. Lindert.

Regional Trading Agreements

- South Asia Association for Economic Cooperation (SAARC) – 1995
- South Asia Free Trade Area (SAFTA) – 2006
- SACU – 2015
- SAEU – 2020

Regional Integration

- Extent of trade
- Country characteristics
- Symmetric economic activities
- Government policies

Extent of Trade

Extent of Trade is Low

- Similar Export Profile.
- Low Purchasing Power.
- Slow to External Sector Reform.

Main tradable in South Asia

Textiles (India)	Textiles (Sri Lanka)	Animals (Bangladesh)
Gems and Jewellery (India)	Vegetables (Sri Lanka)	Leather (Bangladesh)
Chemicals (India)	Plastics (Sri Lanka)	Textiles (Bangladesh)
Textiles (Pakistan)	Animals (Maldives)	Textiles (Nepal)
Vegetables (Pakistan)	Textiles (Maldives)	Chemicals (Nepal)
Leather (Pakistan)	Foodstuffs (Maldives)	Metal (Nepal)

Source: Industrial Commodity Statistics Yearbook, United Nation, 2004

India's Share in Total Trade of SAARC Nations

	Pakistan		Nepal		Bangladesh		Sri Lanka	
Years	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports
1982	0.05	2.67	47.37	37.09	1.77	1.85	5.47	3.41
1983	0.07	2.12	57.14	29.88	2.73	1.61	1.91	3.72
1984	0.11	1.01	50.00	29.53	1.10	1.48	2.94	5.85
1985	0.21	1.09	49.44	32.81	3.33	2.04	0.97	5.47
1986	0.24	1.50	33.33	29.29	3.30	2.34	0.55	3.71
1987	0.24	0.44	27.40	25.55	0.90	4.43	0.86	3.66
1988	0.21	0.55	24.55	14.81	1.30	5.31	0.44	3.48
1989	0.29	0.58	18.80	15.36	1.16	5.60	0.48	3.95
1990	0.59	0.73	25.14	50.59	0.15	4.87	0.45	5.61
1991	0.58	0.81	6.94	8.83	0.90	8.13	1.16	3.87
1992	0.47	0.89	7.39	15.40	0.36	9.50	0.54	5.46
1993	0.55	2.01	6.93	14.63	0.49	9.46	0.54	6.31
1994	0.61	0.70	5.18	14.20	0.57	10.71	0.59	6.17
1995	0.66	0.64	3.99	13.82	1.28	11.37	0.97	7.45
1996	0.61	0.46	8.33	14.21	2.52	14.78	1.02	8.03
1997	1.16	0.42	13.61	11.72	1.76	12.00	0.85	9.11
1998	1.27	0.49	21.91	10.30	1.49	11.76	0.76	8.60
1999	1.24	2.04	29.73	9.34	1.57	12.89	0.82	7.10
2000	0.93	1.24	30.90	12.00	1.64	8.69	0.93	7.74
2001	1.52	0.73	35.21	13.52	1.43	9.55	0.82	9.05
2002	2.15	0.79	42.67	17.40	1.17	12.06	1.67	9.54
2003	1.32	0.55	52.49	19.70	0.79	13.28	4.02	12.55
2004	1.58	0.77	53.16	21.77	0.98	14.04	4.42	14.34
Average	0.72	1.01	28.33	20.08	1.42	8.16	1.44	6.70

Source: Direction of Trade Statistics Yearbook, International Monetary Fund (various issues).

Intra-SAARC trade

South Asia's intra regional trade as a percentage of its total trade volume has barely changed from around 2 percent in 1980 to 3 percent in 2004 – Newfarmer and Pierola (2006).

Country (economic) Characteristics of SAARC Nations

More or Less Similar Economic Structure

- Value Addition in Industry and Agriculture.
- Saving Ratio.
- Demographic Profile.
- Per Capita Income.

Economic Structure of the SAARC Countries, 2006

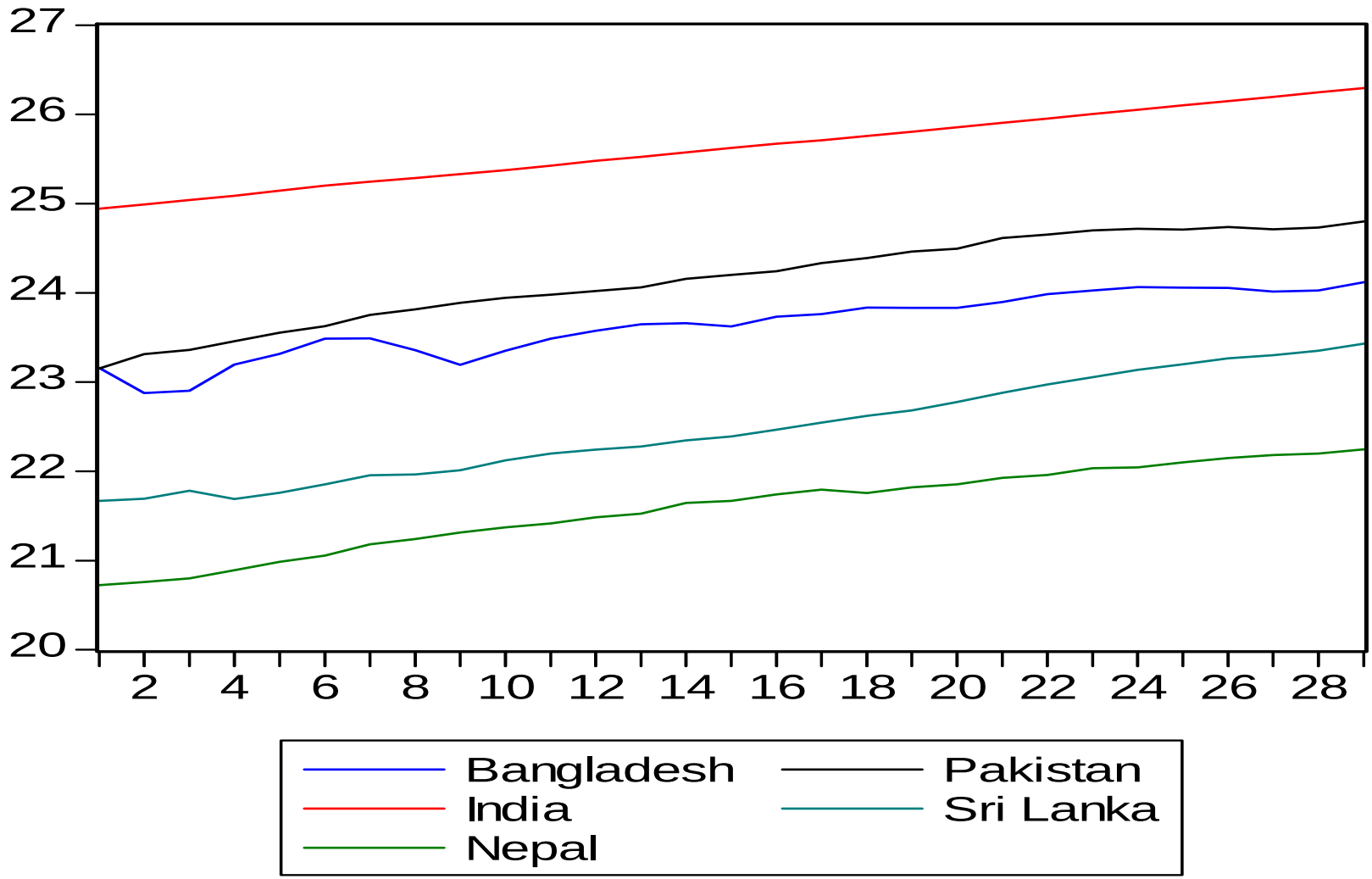
Characteristics	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka
Agriculture, value added (% of GDP)	20	22	18	NA	34	19	16
Industry, value added (% of GDP)	28	38	27	NA	17	27	28
Services, value added (% of GDP)	52	40	55	NA	49	54	56
GDP growth (annual %)	7	8	9	9	3	7	7
Mortality rate, infant (per 1,000 live births)	52	63	57	26	46	78	11
Fertility rate, total (births per woman)	3	2	3	3	3	4	2
Population ages 15-64 (% of total)	62	64	62	63	58	60	70
Rural population (% of total population)	74	89	71	70	84	65	85

Source: World Development Indicators, World Bank (2008)

Symmetry in Economic Activities

- Permanent component of the output in SAARC countries, respond to similarly to external shocks.
- The path to economic and monetary union requires reaching a consensus among the participant countries on the goal of monetary policy and fiscal policy and it will be easiest to achieve consensus if all external shocks have similar economic consequences among the participant countries.

Co-movement in Permanent Components



Source: Banik, Biswas and Saunders (2006), Journal of World Trade, pp. 401

Openness of SAARC Countries: 1981-2006!

Countries	1981	1985	1990	1995	2006
Sri Lanka	64.9	51.8	56.4	81.6	74.8
Bhutan	58.2	50.1	53.1	79.0	77.0
Nepal	13.4	16.8	22.7	59.5	45.2
Pakistan	30.1	29.0	32.8	36.1	38.6
Bangladesh	26.5	24.3	18.4	28.2	44.2
India	11.6	11.6	12.9	23.1	48.7

! Trade (Goods and Services) as a percentage of GDP
Source: World Development Indicator, World Bank.

Extra-legal trade

- Taneja (2004) estimates that the level of legal and extra-legal trade between India and Bangladesh are roughly same.
- Nabi and Nasim (2001) put the value of extra-legal trade among India and Pakistan between $100 million to $1 billion.
- Sarvanathan (1994) estimates India's informal exports to Sri Lanka at $142 million, and exports from Sri Lanka at $121 million.

Labor Mobility

- Labor Mobility is High.
- Labor Completely Mobile Between India, Bhutan and Nepal.
- India and Bangladesh share a Porous Border.
- Labor Mobility between India and Pakistan Gaining Momentum.

Factors Affecting Regional Integration

- Policy Variables: Tariffs and Non-Tariff Barriers

- Trade Costs

1. Transportation costs (Baier and Bergstrand, 1997; De, 2008; Rose and van Wincoop, 1991)
2. Information costs (Rauch and Trindade, 2002)

Trade Costs (Cont.)

3. Use of different currencies (Rose and van Wincoop, 2001)
4. Lack of trade facilitation measures (Wilson et al.)
5. Language barriers (Eaton and Kortum, 2002)
6. Local distribution costs (Feenstra, 1998)

Trade Costs

- Trade Cost – Any cost incurred in moving the good to the final consumer other than the marginal cost of producing the good.

- Success of trade liberalization will depend upon controlling for the trade costs.

Trade Costs

- Trade costs in India is one of the highest in the world (13 percent of GDP) and inadequate infrastructure is responsible for holding back GDP growth by 2 percent – Economic Times, 2008.

Trade Costs

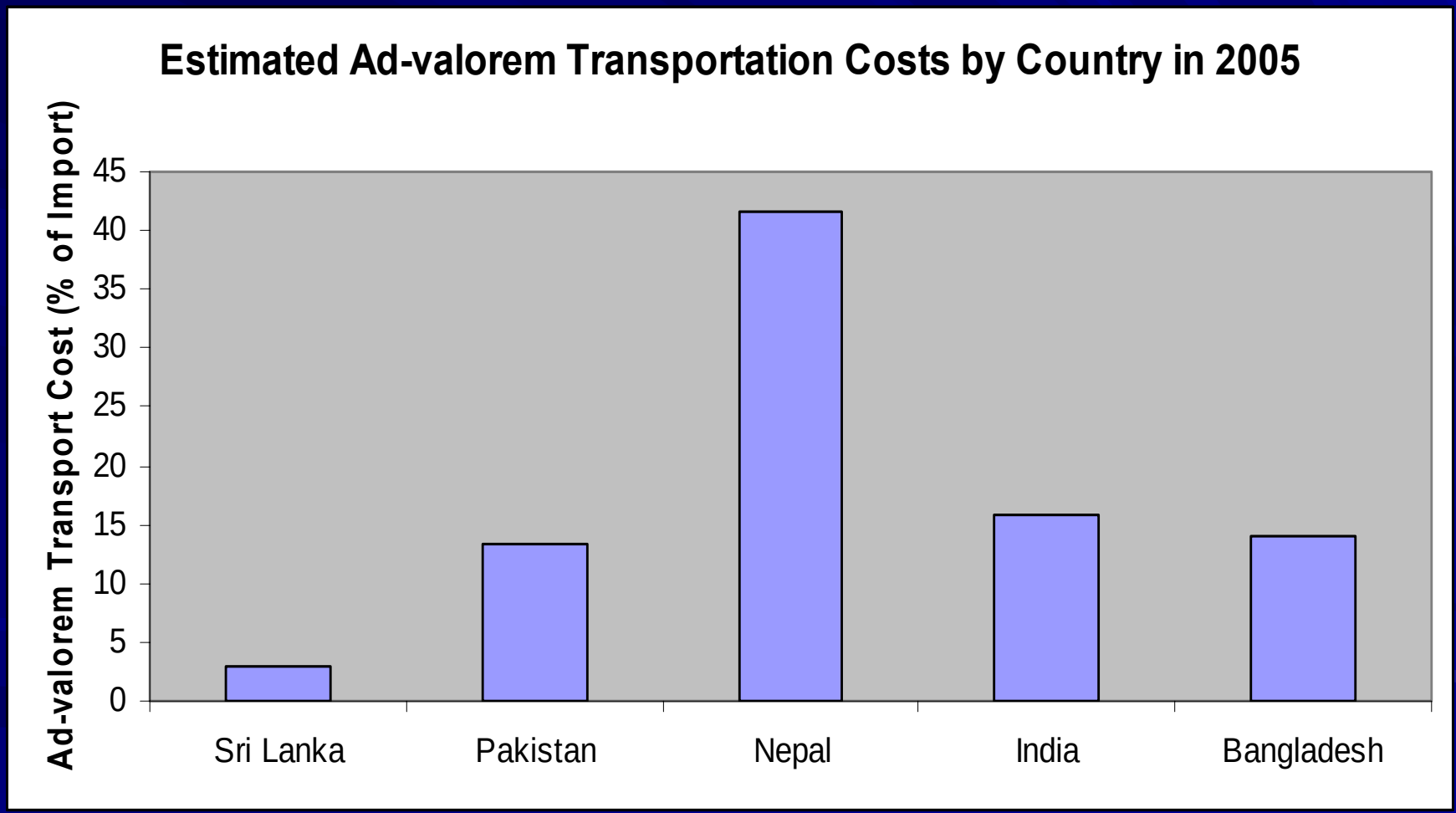
- At India-Bangladesh border a consignment needs at least 22 documentations, more than 55 signatures and a minimum 116 copies for final approval - RIS study.
- A carpet manufacture in Nepal has to spend 100,000 Nepalese Rupees (approx. $1500) per year on account of vehicle maintenance.

Poor State of Infrastructure

- Regulatory constraints in way of private public partnership for building infrastructure (Banik, 2007).

- Most infrastructure projects are suffering from time and cost overrun. For example, out of 130 projects in the 1billion Indian Rupees category, 78 projects are running behind schedule because of operational inefficiency (Kumar, 2005).

Higher transport cost in South Asia



Source: De (2008), 'Trade transportation costs in South Asia: An empirical investigation ADBI Working Paper, pp. 27

Trade Costs

- India subjects 15 out of top 20 Sri Lanka's exports to either tariff quota or negative list (Baysan et al., 2004).
- Similarly, out of 319 items in which Sri Lanka offered concessions of zero duty to India only three items are actually exported to Sri Lanka (Weerakoon, 2001).
- At the Custom Clearance Offices, where port health officers are not available, various samples are drawn and forwarded for clearance to some other laboratory, which results in loss of valuable and also sometime damage quality for perishable items (Banik, 2008).

Trade gains (US $Million) from capacity building in trade facilitation

Countries	Port Efficiency (Air and maritime)	Customs	Regulation	Service Sector Infrastructure	All
Bangladesh	**228**	**144**	**71**	**339**	**782**
India	**314**	**193**	**123**	**519**	**1149**
Pakistan	**74**	**29**	**42**	**191**	**336**
Sri Lanka	**97**	**63**	**41**	**175**	**377**
South Asia	**712**	**429**	**278**	**1224**	**2644**

Source: Wilson and Ostuki (2007), “Cutting Trade Costs and Improved Business Facilitation in South Asia”, pp. 257.

Gravity Model

- Tinbergen, 1962; Linneman, 1966; Bergstrand, 1985; Frankel and Wei, 1993; Srinivasan and Canonero, 1993; Anderson and Wincoop (2004); suggested on the use of gravity equation.

Model

Following Anderson and van Wincoop (2004):

$$x_{ij} = \alpha_1 y_i + \alpha_2 y_j + \sum_{m=1}^{M} \beta_m \ln(z_{ij}^m) + \varepsilon_{ij}$$

Following Frankel and Wei (2003):

$$x_{ij}^t = \alpha_1 (py_i^t \times py_j^t) + \alpha_2 (I_i^t \times I_j^t) + \alpha_3 T_{ij}^t + \alpha_4 ER_{ij}^t + \alpha_5 TC_{ij}^t + \alpha_6 D_{ij} + e_{ij}^t$$

The Data

- India's exports to Sri Lanka, Pakistan, Nepal and Bangladesh between 1995 until 2006.
- Infrastructure – roads, railways, air, electricity and telephones.
- Trade costs as a function of difference between *cif* and *fob* price.

Estimation

Variables	Classic Pool	LSDV	Within Transformed	Random Effect
Constant	-7.755976** (3.173088)	-7.297177** (3.352789)	-0.050417 (0.095005)	6.403701* (0.794306)
Income	0.369434* (0.071397)	0.395761* (0.075602)	0.590614*** (0.208238)	0.326190*** (0.181170)
Infrastructure	0.414557 (0.325230)	0.403931 (0.363619)	0.786731*** (0.412413)	-
Tariffs	0.003329 (0.057281)	0.031918 (0.086118)	-0.208075** (0.085632)	-0.480811* (0.065634)
Exchange Rates	0.057627 (0.760277)	-0.062918 (0.770023)	-2.822734** (0.653376)	-
Trade Costs	-0.794491*** (0.444075)	-0.714065** (0.331285)	-0.561384 (0.358354)	-0.498930*** (0.276431)
Dummy 1	-	-2.613576* (0.298627)	-	-
Dummy 2	-	-0.272008 (0.449774)	-	-
Dummy 3	-	-2.903105* (0.265469)	-	-
Adjusted R^2	0.870151	0.874951	0.893442	0.825819

Results

- In general, estimates have come out with correct theoretical signs.
- Trade costs, infrastructure and income, coefficients are statistically significant.
- For a 100 percent increase in per capita income, India's exports is expected to increase by 29 – 50 percent. Similarly, for a 100 percent increase in trade cost, India's exports is expected to fall by 73 – 42 percent.

Recommendations

- Granting of transit facilities.
- Liberalize measures related to trade in services.
- Transfer of fund from economically advance nation like, India to poor nation like, Nepal and Bangladesh.
- Reducing number of negative lists.

Conclusion

- SAARC region has got desirable characteristics for forming a RTA.
- There is a need to build physical infrastructure.
- Policy makers need to work on trade costs.